

## CLAIMS

What is claimed is:

1. An apparatus for cutting and stacking rolls of sod comprising:
  - a wheeled chassis for traversing a sod field;
  - a horizontal cutting mechanism for cutting a plurality of sod strips;
  - an accumulator configured to hold the plurality of sod strips;
  - a sod roller configured to roll the sod strips prior to transferring the sod to the accumulator;
  - a conveyor configured to transfer sod from the cutting mechanism to the accumulator;
  - a robotic arm configured to lift the plurality of sod strips from the accumulator to a sod storage location; and
  - a controller configured to control the actuation of the accumulator and the robotic arm.
2. The apparatus according to Claim 1 wherein the accumulator is a segmented conveyor.
3. The apparatus according to Claim 1 wherein the accumulator comprises a retractable portion which allows an operator to return a rejected sod roll to the sod field.

4. The apparatus according to Claim 3 further comprising a ramp disposed below the retractable portion.

5. The apparatus according to Claim 3 wherein the robotic arm comprises a horizontal pick-up head having a plurality of gripper modules, each gripper module configured to engage a separate individual sod roll.

6. The apparatus according to Claim 5 wherein each gripper module comprises a pair of engageable fingers, the engageable fingers being configured to be rotatably positioned to engage a roll of sod positioned in the accumulator.

7. The apparatus according to Claim 6 wherein the fingers are coupled to a gripper actuator, the gripper actuator having an extended position whereby the fingers are rotated into a position below a concave stripper.

8. The apparatus according to Claim 6 wherein the fingers are coupled so as to cause the fingers to engage the separate sod rolls simultaneously.

9. The apparatus according to Claim 6 wherein the horizontal pick-up head has a separator mechanism configured to cause movement of at least one gripper module with respect to another gripper module.

10. The apparatus according to Claim 6 further comprising a controller configured to regulate the movement of the robotic arm.

11. The apparatus according to Claim 10 wherein the robotic arm is hydraulically driven and the controller is configured to control at least one hydraulic valve.

12. The apparatus according to Claim 10 wherein the controller is electronically coupled and configured to control the gripper modules.

13. The apparatus according to Claim 10 wherein the controller is coupled to a plurality of actuators which are configured to keep the horizontal pick-up head horizontal.

14. The apparatus according to Claim 10 further comprising a pair of forks configured to support a pallet in the sod storage location, said controller configured to control the movement of the forks from the first pallet location to a second pallet location.

15. The sod harvester for removing sod from a sod field and placing rolled sod into a pyramidal stack comprising:

a wheel to chassis having a sod storage location configured to support the skid;

a robotic arm coupled to the chassis, said robotic arm having a horizontal pick-up head, the horizontal pick-up head having a plurality of gripper modules, each gripper module configured to simultaneously engage a sod roll; and

a controller configured to control the robotic arm to cause it to place rows of rolled sod into the sod storage location.

16. The sod harvester according to Claim 15 wherein the robotic arm is configured to simultaneously move the plurality of rolls of sod from in an accumulator to the palletized skid.

17. The sod harvester according to Claim 16 further comprising a horizontal cutting mechanism configured to cut sod into strips.

18. The sod harvester according to Claim 17 further comprising a conveyor disposed between the horizontal cutting mechanism and the accumulator.

19. The sod harvester according to Claim 18 further comprising a means for rolling sod strips.

20. The sod harvester according to Claim 19 further comprising a mechanism configured to transfer the sod from the conveyor to the accumulator.

21. The mechanism according to Claim 20 wherein the accumulator is a segmented, indexed conveyor.